(1) Publication number: 0 517 494 A3

12

EUROPEAN PATENT APPLICATION

(21) Application number: 92305073.6

(51) Int. Cl.5: A61N 1/372

22) Date of filing: 03.06.92

30) Priority: 07.06.91 US 710716

(43) Date of publication of application : 09.12.92 Bulletin 92/50

Designated Contracting States:
 AT BE CH DE DK ES FR GB GR IT LI LU MC NL
PT SE

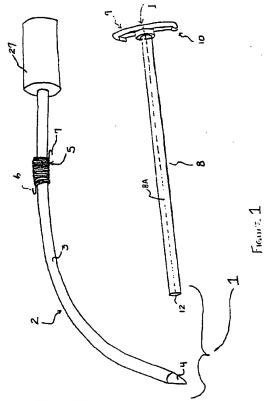
88 Date of deferred publication of search report: 17.03.93 Bulletin 93/11

(7) Applicant: CARDIAC PACEMAKERS, INC. Hamiline Avenue North 4100 St. Paul, Minnesota 55112-5798 (US) (72) Inventor: Dahl, Roger W.
112-150th Lane N.E.
Andover, Minnesota 55307 (US)
Inventor: Wickham, Robert W.
44918 Forest Boulevard
Harris, Minnesota 55032 (US)
Inventor: Hell, John
1849 Reaney
St. Paul, Minnesota 55119 (US)
Inventor: Kafera, James D.
1704 Dayton Avenue
St. Paul, Minnesota 55104 (US)
Inventor: Hoch, J. Michael
6025 Yucca Lane North
Plymouth, Minnesota 55446 (US)

(4) Representative: Low, Peter John et al WILSON, GUNN & ELLIS 41-51 Royal Exchange Cross Street Manchester, M2 7BD (GB)

(54) Insertion and tunneling tool for a subcutaneous wire patch electrode.

A tool (1) for subcutaneously implanting a subcutaneous electrode comprising several wire patch electrode segments by way of a single surgical incision. The tunneling tool (1) comprises a stylet (2) and a peel-away sheath (8). The tunneling tool (1) is inserted into an incision, in a direction which corresponds to the desired placement of an electrode segment. Once the tunneling tool reaches a desired position, the stylet (2) is withdrawn, thereby revealing the interior of the peel-away sheath (8) and a resulting subcutaneous tunnel. The corresponding electrode segment is then inserted into this subcutaneous tunnel, and subsequently implanted in the patient. The implantation procedure is then repeated as many times as is necessary, using the same incision, until all the electrode segments for the particular electrode configuration have been implanted. In addition, the tunneling tool (1) can be adapted to conform to varying electrode segment sizes, which thereby allows the tool to conform to the varying needs of each individual patient. As an even further feature, the tunneling tool (1) can be constructed in a curved configuration to facilitate electrode implantation in the lateral thoracic region of the body.



0 517

Jouve, 18, rue Saint-Denis, 75001 PARIS

YqoD əldblibvA #298 429



European Patent PARTIAL EUROPEAN SEARCH REPORT

~01

which under Rule 45 of the European Patent Convention shall be considered, for the purposes of subsequent proceedings, as the European search report

	DOCUMENTS CONS	EP 92305073.6				
Category		ith indication, where appropriate, want passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. CI 9		
x	<u>US - A - 4 59</u> (J.J. FLEISCH	6 559 HACKER)	1-3,7, 11,12	A 61 N 1/372		
Y	* Totality	*	9,10			
x	EP - A - 0 28 (BARD LTD.)	0 528	1,7,12			
Y A	* Totality	*	9,10 2,3,11			
x	US - A - 4 88 (P.H. McQUILK	8 000 IN et al.)	1.7,12			
Y A	* Totality	*	9,10 2,3,11			
Y	GB - A - 2 10 (H.G. WALLACE * Figure 1 lines 3-	3 936 LTD.) ; abstract; page 5; claims 1,2 *	9 .			
Y	EP - A - 0 36: (CATHETER TECI	- - 2 462	10	TECHNICAL FIELDS SEARCHED (Ini. CI*) A 61 B A 61 M		
INCO	MPLETE SEARCH	<u> </u>	A 61 N			
out a mea Claims se Claims se Claims no Reason to Med and	ch Division considers that the presence of the European Patent Conveningful search into the state of the a arched completely: arched incompletely: or searched: thod for treatmentimal body by surgee article 52(4) tent Convention)	·				
VI	Place of search ENNA	LUD LUD	Examiner DWIG			
Y:pa do	CATEGORY OF CITED DOC rticularly relevant if taken alone rticularly relevant if combined w cument of the same category	lying the invention but published on, or plication reasons				
O: no	chnological background n-written disclosure ermediate document		&: member of the same patent family, corresponding document			

0 Form 1505 1 (0)



Best Available Copy

	<u> </u>	1346	NCU	3011	NG EFF	:e							
	ULA	INI	INCU		nu ret								
												•	
The p	resent l	Europ	ean patent	applic	ation comp	rised at t	the time of	filing more t	han ten cla	nima.			
		All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.											
]							n the prescri for those cla				opean search en paid,	
		name	ely cialms:							•		•	
C		No c				ithin the	prescribe	od time limit.	The prese	int Europesi	n search re	port has been	
₩.	1 4/	.k	OF UNI	TV	OF INV	ENT	ON						
$\stackrel{\frown}{\sim}$								Apolication d	loes not ~	** **** viame	le requirem	nent of unity of	
			on consider tes to sever						HUI C		quiitii	or waty O	
name					-								
		1.	Claims	:	1-12:	A'')	. funne	eling f	ool fo	or")		
		2.	Claims	: 1	9–25:			implan de"		•••			
					٠.								
					٠.								,
					•								
			further sea on drawn up			sen paid	within the	e fixed time	limit. The	present Eu	ropean sea	arch report has	
		rep		n dr a	wn up for ti	hose par	rta of the f					uropean search he inventions in	
		nar	mely claims:										
	X	No	ne of the fu	rther : vn ,up	for those							in search report e invention first	
					 L – 1Ż								

Best Available Copy



PARTIAL EUROPEAN SEARCH REPORT

Application number

-2-

EP 92305073.6

	DOCUMENTS CONSIDERED TO BE RELEVANT	CLASSIFICATION OF THE APPLICATION (Int. CI.X)	
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	ALL EGATION (INC. CL.1)
	CORPORATION) * Figure 1; abstract; column 1, lines 1-13; column 2, lines 15-32; column 5, lines 4-11; column 8, lines 20-27; claims 1,20 *		
A	<pre>DE - A - 2 929 233 (MEDTRONIC INC.) * Fig. 1; claims 1,3,5; page 13, line 6 - page 16, line 15 *</pre>	1,3,9,	
		-	TECHNICAL FIELDS SEARCHED (Int. CL4)